# PELVIC INFLAMMATORY DISEASE (PID)

# **✓ DISEASE AND EPIDEMIOLOGY**

# **Clinical Description:**

PID is an inflammation of the upper genital tract (uterus, tubes, and adjacent pelvic structures). It is characterized by lower abdominal/pelvic pain and tenderness, fever, and nausea and vomiting, with or without vaginal discharge. PID can be caused by *C. trachomatis* or *N. gonorrhoeae*, as well as by a variety of other infectious agents. The cause of PID cannot be determined solely on clinical grounds.

#### **Causative Agent:**

Sexually transmitted organisms, especially *N. gonorrhoeae* and *C. trachomatis* are implicated in many cases; however, microorganisms that comprise the vaginal flora (anaerobes, *G. vaginalis*, *Haemophilus influenzae*, enteric gram-negative rods and *Streptococcus agalactiae* (Group B strep) also have been associated with PID.

#### **Differential Diagnosis:**

PID is one of the many diagnoses that must be considered in women with abdominal or pelvic pain. The differential diagnosis of PID includes other gynecological conditions and disorders of the gastrointestinal and urinary tract. Ectopic pregnancy and acute appendicitis are the most serious intraabdominal conditions to exclude.

# **Laboratory identification:**

Most laboratory tests used to diagnose PID are nonspecific. Furthermore, the sensitivity and specificity of laboratory tests have not been compared with laparoscopic diagnosis in most series.

#### **Treatment:**

Inpatient PID treatment must provide empiric, broad spectrum coverage of likely pathogens.

Cefotetan 2 g IV every 12 hours

OR

Cefoxitin 2 g IV every 6 hours

**PLUS** 

Doxycycline 100 mg orally or IV every 12 hours

Outpatient PID treatment regimens include ofloxacin; levofloxacin; ceftriaxone, cefoxitin or 3<sup>rd</sup> generation cephalosporins plus doxycycline; all of the above regimens can include metronidazole.

For additional treatment options please go to <a href="www.cdc.gov/std/treatment">www.cdc.gov/std/treatment</a> for the Sexually Transmitted Disease Treatment Guidelines, 2006

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#### Case fatality:

PID is rarely fatal.

#### Reservoir:

Humans are the source of infection.

#### **Transmission:**

Although PID itself is non-transmittable, some of the etiological agents that cause PID such as *Neisseria gonorrhoeae* and *Chlamydia trachomatis* are transmitted through sexual contact.

### Susceptibility:

Women who douche and have multiple sex partners are more likely to develop PID.

#### Incubation period:

An incubation period for PID is undefined.

### Period of communicability:

PID itself is not communicable. However, if *N. gonorrhoeae* or *C. trachomatis* are the responsible agents, then until treated, they remain infectious.

### **Epidemiology:**

As is true for other sexually transmitted diseases (STDs), the incidence of PID is highest among adolescents and young adults. Other risk factors for PID include numerous sex partners, use of an intrauterine device, douching, and previous episodes of STDs. Oral contraceptive pills reduce the likelihood of PID in the face of gonococcal or chlamydial cervicitis. Ascending pelvic infection is a rare complication of gonococcal vaginitis in prepubertal girls.

# **✓ PUBLIC HEALTH CONTROL MEASURES**

# **Public health responsibility:**

- Investigate all suspect cases of disease and fill out and submit appropriate disease investigation forms.
- Provide education to the general public, clinicians, and first responders regarding disease transmission and prevention.
- Identify clusters or outbreaks of this disease.
- Identify sources of exposure and stop further transmission.

#### **Prevention:**

Prevention of chlamydial infection by screening and treating high-risk women reduces the incidence of PID. Theoretically, the majority of cases of PID can be prevented by screening all women or those determined to be at high risk (based on age or other factors) by using DNA amplification on cervical specimens (in women not undergoing

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examinations). Although bacterial vaginosis (BV) is associated with PID, whether the incidence of PID can be reduced by identifying and treating women with BV is unclear.

### **Chemoprophylaxis:**

PID is not transmissible.

#### Vaccine:

None

### Isolation and quarantine requirements:

**Isolation:** Not applicable **Hospital:** Not applicable **Quarantine:** Not applicable

# **✓ CASE INVESTIGATION**

## Reporting:

Pelvic inflammatory disease is a reportable disease. Because this disease is not identified via laboratory testing, special efforts must be made to assure that clinicians are aware of the importance of their role in reporting this disease.

#### Case definition:

# Pelvic Inflammatory Disease (1996): Clinical Case Definition

A clinical syndrome resulting from the ascending spread of microorganisms from the vagina and endocervix to the endometrium, fallopian tubes, and/or contiguous structures. In a female who has lower abdominal pain and who has not been diagnosed as having an established cause other than pelvic inflammatory disease (PID) (e.g., ectopic pregnancy, acute appendicitis, and functional pain), all the following clinical criteria must be present:

- Lower abdominal tenderness, and
- Tenderness with motion of the cervix, and
- Adnexal tenderness

In addition to the preceding criteria, at least one of the following findings must also be present:

- Meets the surveillance case definition of *C. trachomatis* infection or gonorrhea
- Temperature greater than 100.4 F (greater than 38.0 C)
- Leukocytosis greater than 10,000 white blood cells/mm<sup>3</sup>
- Purulent material in the peritoneal cavity obtained by culdocentesis or laparoscopy
- Pelvic abscess or inflammatory complex detected by bimanual examination or by sonography

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• Patient is a sexual contact of a person known to have gonorrhea, chlamydia, or nongonococcal urethritis

#### **Case Classification**

Confirmed: a case that meets the clinical case definition

#### Comment

For reporting purposes, a clinician's report of PID should be counted as a case.

#### **Case Investigation Process:**

- Fill out a morbidity form
- Conduct a client interview
- Fill out a client STD interview record on original patient and field records for contacts identified
- Conduct field investigations on contacts
- Treatment and follow-up for contacts
- Fill out interview record

#### **Outbreaks:**

Not applicable.

#### Identification of case contacts:

Male sex partners of women with PID should be examined and treated if they had sexual contact with the patient during the 60 days preceding the patient's onset of symptoms. Evaluation and treatment are imperative because of the risk for reinfection of the patient and the strong likelihood of urethral gonococcal or chlamydial infection in the sex partner.

# Case contact management:

Male partners of women who have PID caused by *C. trachomatis* and/or N. gonorrhoeae frequently are asymptomatic. Sex partners should be treated empirically with regimens effective against both of these infections, regardless of the etiology of PID or pathogens isolated from the infected women.

# **✓** REFERENCES

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